

**Notice of Allowability**

Application No.

09/830,928

Examiner

Tianjie Chen

Applicant(s)

SHIMAZAKI ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed on 11/10/2005.
2. ☒ The allowed claim(s) is/are 51-57,64,65,73,74 and 88-94.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)           |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|   | 9. <input type="checkbox"/> Other _____   |

### **REASONS FOR ALLOWANCE**

The following is an examiner's statement of reasons for allowance:

- With regard to claim 51, as the closest reference, Yokota (US 5,987,003) shows an optical disk, including a disk substrate having a hole formed through the center thereof; a recording layer, which is formed on the substrate and on which the information is recorded; a recessed area, which has an area up to 30% of the total area of the disk substrate; **but fails to show** a hub provided on the center of the substrate so as to be movable relative to the substrate; the hub having a diameter which is 26% or more than that of the optical disk; the optical disk satisfies a relationship of  $Y/X \geq 0.015$ , where X is a projected area of the substrate and Y is a contact area between the hub and the substrate.
- With regard to claim 64, as the closest reference, Yokota (US 5,987,003) shows an optical disk, including a disk substrate having a hole formed through the center thereof; a recording layer, which is formed on the substrate and on which the information is recorded; a recessed area, which has an area up to 30% of the total area of the disk substrate; **but fails to show** the optical disk satisfies a relationship of  $Y/X \geq 0.015$ , where X is a projected area of the substrate and Y is a contact area between the hub and the substrate.
- With regard to claim 65, as the closest reference, Yokota (US 5,987,003) shows an optical disk, including a disk substrate having a hole formed through the center thereof; a recording layer, which is formed on the substrate and on which the information is recorded; a recessed area,

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which has an area up to 30% of the total area of the disk substrate; **but fails to show** a hub provided on the center of the substrate so as to be movable relative to the substrate; the hub having a diameter which is 26% or more than that of the optical disk.

- With regard to claim 73, as the closest reference, Tamaqua et al (US 6,162,519) shows a disk substrate for an optical disk, the substrate having an axis of rotation, wherein a disk plane tilts at a tilt angle  $\theta$ , which is  $0.6^\circ = 11 \text{ mrad}$ , which satisfies:  $10 \text{ mrad} \leq \theta \leq 20 \text{ mrad}$ , with a plane perpendicular to the axis of rotation after the substrate had been manufactured; **but fails to show** the optical disk satisfies a relationship of  $Y/X \geq 0.015$ , where X is a projected area of the substrate and Y is a contact area between the hub and the substrate.
- With regard to claim 74 as the closest reference, Takakuwa et al (US 6,162,519) shows a disk substrate for an optical disk, the substrate having an axis of rotation, wherein a disk plane tilts at a tilt angle  $\theta$ , which is  $0.6^\circ = 11 \text{ mrad}$ , which satisfies:  $10 \text{ mrad} \leq \theta \leq 20 \text{ mrad}$ , with a plane perpendicular to the axis of rotation after the substrate had been manufactured; **but fails to show** a hub provided on the center of the substrate so as to be movable relative to the substrate; the hub having a diameter which is 26% or more than that of the optical disk.
- With regard to claim 88, none of the prior art in the record discloses a driving apparatus for recording and reproducing information by radiating light onto the recording surface of a record disk including a light source for irradiating the record disk with light; a tilt sensor for measuring a tilt

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angle of the recording surface of the record disk relative to the optical axis of the light incident on the disk; a rotating shaft for rotating the record disk; an electromagnet embedded in the rotating shaft; and a controller for controlling the magnetic field intensity of the electromagnet based on the tilt angle detected by the tilt sensor, and for adjusting the force with which the hub presses the disk plane of the record disk.

- Applicant asserts that by using this arrangement, while the disk is rotated, its recording surface is kept horizontal (Spec. p. 66, lines 18-19).

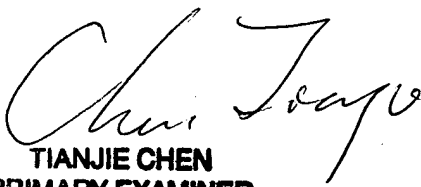
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tianjie Chen whose telephone number is 571-272-7570. The examiner can normally be reached on 8:00-4:30, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on 571-272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**TIANJIE CHEN**  
**PRIMARY EXAMINER**